

Claims

1. A winding machine, having a carrier device (23) for winding a winding for an
5 electrical machine, having at least one group (34) comprising a winding template
(29) and an adjacent deflection element (31), wherein the winding template (29)
and the adjacent deflection element (31) are displaceable relative to one another.
2. The winding machine of claim 1, wherein one row of groups (34) is followed
10 by a final winding template (29).
3. The winding machine of one of the foregoing claims, wherein the carrier
device (23) is rotatable about a pivot axis (36).
- 15 4. The winding machine of one of the foregoing claims, wherein the pivot axis
(36) is displaceable relative to the carrier device (23).
5. The winding machine of one of the foregoing claims, wherein the winding
template (29) has an edge (54) on one free end (51).
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6. The winding machine of one of the foregoing claims, wherein the winding
template (29) has at least one separator element (58) on its cheek sides (56).
7. The winding machine of one of the foregoing claims, wherein the at least
25 one winding template (29) has at least two stepped rests, each for at least one
wire, for graduating a coil width within a coil.
8. The winding machine of one of the foregoing claims, wherein the winding
template (29) comprises at least two winding cheeks (45) that are adjustable
30 relative to one another.
9. The winding machine of one of the foregoing claims, wherein via a wire
guide (40), at least one wire can be delivered.

10. The winding machine of the foregoing claim, wherein the wire guide (40) is adjustable in accordance with a progress in winding toward a winding cheek (45).

11. A method for producing a winding comprising at least one coil, wherein at least one wire is wound around a winding template (29), so that the result is at least one wire arrangement having at least one first coil side (68), at least one first deflection side (69), and at least one second coil side (68), and wherein for the winding process, a winding template (29) is displaced out of a plane.

12. The method of the foregoing claim, wherein a first winding template (29.1) is wound around in a first direction of rotation to produce a first coil.

13. The method of one of the foregoing claims 11 or 12, wherein after the winding of the coil, the winding template (29) with the coil is pushed back into the plane.

14. The method of one of the foregoing claims, wherein the at least one wire is then wound around an adjacent deflection element (31) in a second direction of rotation for producing a coil connector (70).

15. The method of claim 14, wherein then a further winding template (29) is displaced out of the plane for the winding process, a further coil having at least one first coil side (68), at least one first deflection side (69) and at least one second coil side (68), is wound in the first direction of rotation about this winding template (29), and then with the coil is pushed back with the coil into the plane.

16. The method of one of claims 14 through 16, wherein after the end of the winding operation, the winding is removed from the at least one winding template (29).

17. The method of the foregoing claim, wherein at least one second winding cheek (45) of a winding template (29) is adjusted, so that the winding can be removed.

18. A winding for an electrical machine, characterized in that it is produced in accordance with one of claims 11 through 17.